

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-3 (canceled).

Claim 4 (previously presented): The method according to claim 21, wherein, during the movement of the welding wire towards the workpiece, the welding parameters are controlled in a manner that the electric arc is maintained until immediately before the contacting of the welding wire with the workpiece while avoiding melting of the welding wire.

Claim 5 (previously presented): The method according to claim 21, wherein contacting of the welding wire with the workpiece is detected when a short circuit is recognized.

Claim 6 (previously presented): The method according to claim 5, wherein, after the detection of said contacting, the end of the welding wire is reset to a zero position.

Claim 7 (previously presented): The method according to claim 21, wherein the welding wire is moved back after contacting with the workpiece.

Claim 8 (canceled).

Claim 9 (previously presented): The method according to claim 21, wherein said distance is determined via the welding voltage (U), the welding current (I) or the time (t) during the movement of the welding wire.

Claim 10 (previously presented): The method according to claim 21, wherein the at least one mechanical adjustment process is initiated by settings selected by the user or by fixed defaults.

Claim 11 (previously presented): The method according to claim 21, wherein the at least one mechanical adjustment process is initiated by a trigger signal.

Claim 12 (previously presented): The method according to claim 21, wherein the at least one mechanical adjustment process is initiated at defined times, after expiration of defined time intervals or after expiration of a defined number of welding process pulses.

Claim 13 (currently amended): The method according to claim 21, wherein the welding wire is advanced at a welding wire advance speed (V) and the welding wire advance speed is increased during the at least one mechanical adjustment process.

Claim 14 (previously presented): The method according to claim 21, wherein the at least one mechanical adjustment process is carried out during a base current phase of the welding.

Claim 15 (previously presented): The method according to claim 21, wherein the welding wire has a length through which

welding current flows and said length is measured during the at least one mechanical adjustment process.

Claim 16 (previously presented): The method according to claim 21, wherein the electric arc is newly ignited during the at least one mechanical adjustment process as the welding wire is lifted off the workpiece.

Claim 17 (previously presented): The method according to claim 21, wherein the electric arc is newly ignited during the at least one mechanical adjustment process as the desired distance is reached.

Claim 18 (previously presented): The method according to claim 21, wherein the at least one mechanical adjustment process is carried out at the beginning of the welding.

Claim 19 (previously presented): The method according to claim 21, wherein the at least one mechanical adjustment process is carried out at the end of the welding so as to enable the

adjustment of a defined distance of the end of the welding wire relative to the workpiece for the subsequent welding.

Claim 20 (previously presented): The method according to claim 21, wherein the position of the welding wire determined during the at least one mechanical adjustment process is transmitted to a robot control.

Claim 21 (previously presented): A method for controlling a welding process using a melting welding wire and a welding torch comprising the steps of:

- (a) igniting an electric arc;
- (b) subsequently conducting welding, the welding being adjusted on the basis of several different welding parameters and controlled by at least one of a control device and a welding current source; and

- (c) carrying out at least one mechanical adjustment process during the welding to determine the position of the welding wire using the welding wire as a sensor;

wherein, during the at least one mechanical adjustment process, the welding torch is maintained in position and the

welding parameters are controlled in a manner that no or only little welding wire material melting is effected;

wherein, during the at least one mechanical adjustment process, contacting of the welding wire with a workpiece is effected by moving the welding wire towards the workpiece; and

wherein, after contacting of the welding wire with the workpiece, the welding wire is moved away from the workpiece to a fixedly pregiven or adjustable distance relative to the workpiece.